Hot Brakes in the High Desert

By Lt. Gregg Sanders

As a nugget at the Fallon air-wing detachment, I was launching on what was supposed to be my first air-wing strike. Our mission was to look for hostile radars as they became active. After the gaggle brief at NSAWC, we returned to our ready room for the crew brief.

Photo by Matthew J. Thomas

Following the normal brief items and safety-of-flight info, we went over our takeoff computations one more time. Takeoff comps had been emphasized since before we left Jacksonville. Fallon is definitely a different operating environment than most naval aviators are used to, with its 4,000-foot altitude and temperatures ranging from 100 degrees to below freezing. Fortunately for us, it was late October, and the cold temperatures usually cancelled out the high altitude, as far as ground roll on takeoff and abort conditions. Fallon's 14,000-foot runway also is a nice feature. We were a three-seater with a full bag of gas, but the numbers told us we had plenty of runway available, and we could abort all the way to takeoff speed.

Confident in our preflight planning, we walked and manned up early. We were aware of the fallout plans, and we wanted extra time to troubleshoot if we had problems. We taxied to the duty runway about 15 minutes early. We had been taking off on 31L, the 14,000-foot runway.

About five minutes before our planned takeoff time, we called tower and asked for takeoff clearance. A flight of two Hornets were approaching the initial, so tower cleared us for takeoff on 31R, which was only 11,000 feet long. As we taxied across the left runway, it occurred to me that we now were short 3,000 feet of runway. I had done takeoff comps for the shorter runway a couple of times and knew it usually did not make a difference. Typically, we had plenty of runway available, and we had the ability to abort at or past takeoff speed. How often do you have a high-speed abort anyway?

We taxied into position and were cleared for takeoff. I ran up the engines and performed the normal checks. I released the brakes, and we accelerated down the runway. As we passed 100 knots, I checked the tapes and gauges one more time. At 123 knots, two knots before rotation, my COTAC called, "Abort, door open."

I immediately pulled the throttles to idle and deployed the speed brakes. I looked at the master-caution panel and saw the "door open" light but with no associated master-caution light. As we passed the eight-board, our airspeed had decreased through 110 knots. Because we were at normal landing speed, with the same available runway as back at NAS Jax, I felt we should have no problems. I told this to my COTAC as I tested the brakes at 110 knots. The brakes felt normal, so I let the aircraft decelerate through 100 knots and began applying steady brakes. We hit all our normal airspeed-runway remaining gates with no problems and without having to jump on the binders.

We took the jet to the end of the runway and began taxiing back to our line. The brakes felt a little spongy at this point, but I didn't think they were hot. Our lineman brought us to the line opposite from the normal direction, so I had to do a 135-degree turn into my spot, instead of the normal 45. As I began the turn, the jet didn't feel right. The lineman gave me the hold-brake symbol, which didn't help. The starboard wheel would not stay put. As I continued my turn, I saw the FDC run up frantically signaling for me to stop the aircraft. He pointed to my port mainmount and gave me the "fire" signal. Once the jet was stopped, he told us to get out. The chief ran to the door, and it opened without the FDC turning the handle, confirming our original door problem. The three of us exited the aircraft without incident.

Before walking, I had read a signed-off gripe in the book for hydraulic fluid leaking on the left wheel. Apparently, the corrective action had not stopped the leak. As we taxied into the line, a Prowler's exhaust was blowing on our aircraft, keeping the wheel cool enough or keeping the fluid from dripping on the wheel. However, as soon as we turned out of the Prowler's exhaust, the port wheel burst into flames. As it turns out, my initial assessment was incorrect. Not only did the port wheel catch on fire, but the starboard brake melted the automatic-deflation valve on the starboard tire.

Always have a good handle on your takeoff computations, and never discount the possibility of a high-speed abort. If you do have a high-speed abort, always have hot brakes and brake fires in the front of your mind as you exit the runway. I was surprised we had hot brakes. I thought my brake application had been smooth, but what does a nugget know?

Lt. Sanders flies with VS-24.